

MOC8106X, MOC8107X, MOC8108X,
MOC8106, MOC8107, MOC8108



**NON-BASE LEAD
OPTICALLY COUPLED ISOLATOR
PHOTOTRANSISTOR OUTPUT**

APPROVALS

- UL recognised, File No. E91231
- 'X' SPECIFICATION APPROVALS
 - VDE 0884 in 3 available lead forms :-
 - STD
 - G form
 - SMD approved to CECC 00802
 - Certified to EN60950 by the following Test Bodies :-
 - Nemko - Certificate No. P96101299
 - Fimko - Registration No. 190469-01..22
 - Semko - Reference No. 962007601
 - Demko - Reference No. 305567

DESCRIPTION

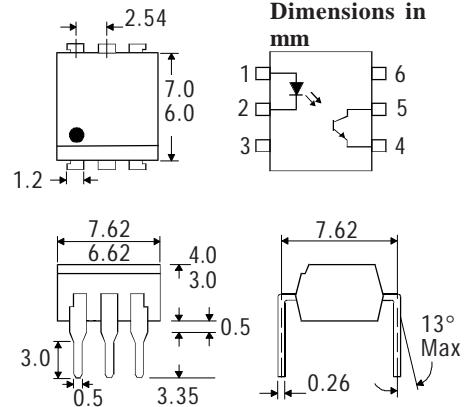
The MOC8106, MOC8107, MOC8108 series of optically coupled isolators consist of infrared light emitting diode and NPN silicon photo transistor in a standard 6 pin dual in line plastic package with the base pin unconnected.

FEATURES

- Options :-
 - 10mm lead spread - add G after part no.
 - Surface mount - add SM after part no.
 - Tape & reel - add SMT & R after part no.
- High Isolation Voltage (5.3kV_{RMS}, 7.5kV_{PK})
- Base pin unconnected for improved noise immunity in high EMI environment

APPLICATIONS

- DC motor controllers
- Industrial systems controllers
- Signal transmission between systems of different potentials and impedances



**ABSOLUTE MAXIMUM RATINGS
(25°C unless otherwise specified)**

Storage Temperature	-55°C to +150°C
Operating Temperature	-55°C to +100°C
Lead Soldering Temperature (1/16 inch (1.6mm) from case for 10 secs)	260°C

INPUT DIODE

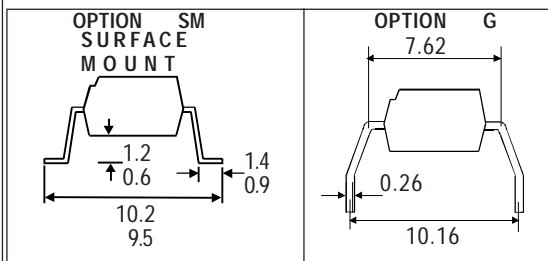
Forward Current	60mA
Reverse Voltage	6V
Power Dissipation	120mW

OUTPUT TRANSISTOR

Collector-emitter Voltage BV_{CEO}	70V
Emitter-collector Voltage BV_{ECO}	7V
Power Dissipation	160mW

POWER DISSIPATION

Total Power Dissipation	200mW
(derate linearly 2.94mW/°C above 25°C)	



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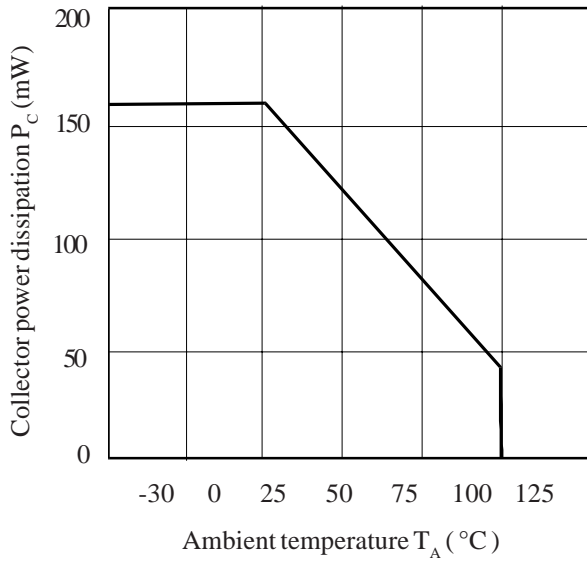
ELECTRICAL CHARACTERISTICS (T_A = 25°C Unless otherwise noted)

PARAMETER		MIN	TYP	MAX	UNITS	TEST CONDITION
Input	Forward Voltage (V _F)	1.0	1.15	1.5	V	I _F = 10mA
	Reverse Voltage (V _R)	6			V	I _R = 10μA
	Reverse Current (I _R)			10	μA	V _R = 6V
Output	Collector-emitter Breakdown (BV _{CEO}) (Note 2)	70			V	I _C = 1mA
	Emitter-collector Breakdown (BV _{ECO})	6			V	I _E = 100μA
	Collector-emitter Dark Current (I _{CEO})		1.0	50	nA	V _{CE} = 10V
Coupled	Output Collector Current I _C (CTR) ⁽²⁾					
	MOC8106	5.0(50)		15(150)	mA(%)	10mA I _F , 10V V _{CE}
	MOC8107	10(100)		30(300)	mA(%)	10mA I _F , 10V V _{CE}
	MOC8108	25(250)		60(600)	mA(%)	10mA I _F , 10V V _{CE}
	Collector-emitter Saturation Voltage V _{CE(SAT)}		0.15	0.4	V	5mA I _F , 0.5mA I _C
	Input to Output Isolation Voltage V _{ISO}	5300 7500			V _{RMS} V _{PK}	See note 1 See note 1
	Input-output Isolation Resistance R _{ISO}	5x10 ¹⁰			Ω	V _{IO} = 500V (note 1)
	Turn-on Time ton		7.5	20	μs	V _{CC} = 10V, I _C = 2mA, R _L = 100Ω
Turn-off Time toff		5.7	20	μs		
Output Rise Time tr		3.2		μs		
Output Fall Time tf		4.7		μs		

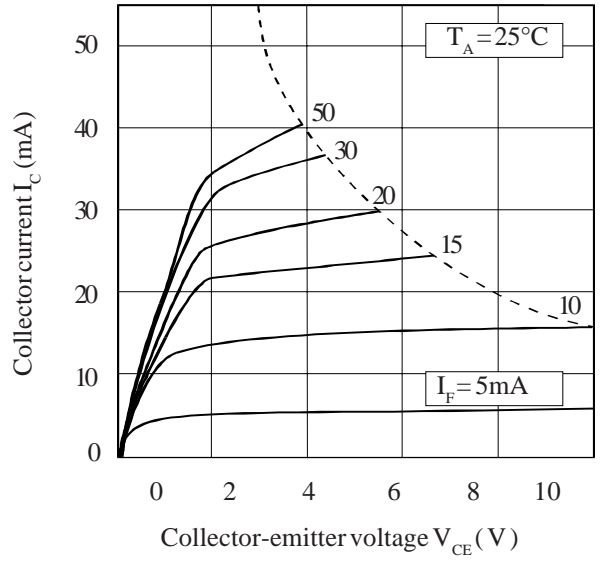
Note 1 Measured with input leads shorted together and output leads shorted together.

Note 2 Special Selections are available on request. Please consult the factory.

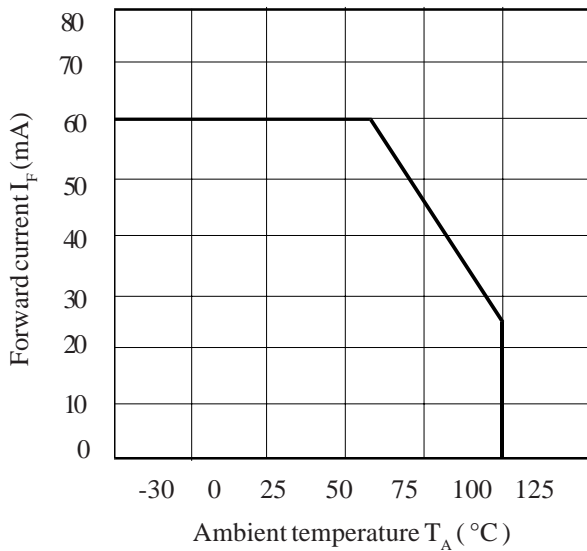
Collector Power Dissipation vs. Ambient Temperature



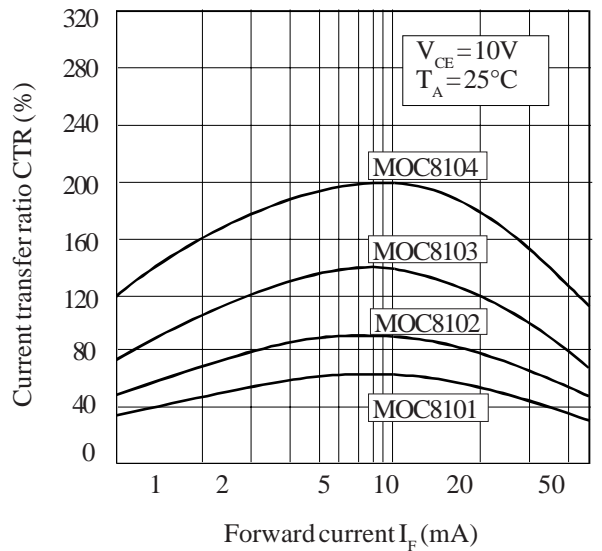
Collector Current vs. Collector-emitter Voltage



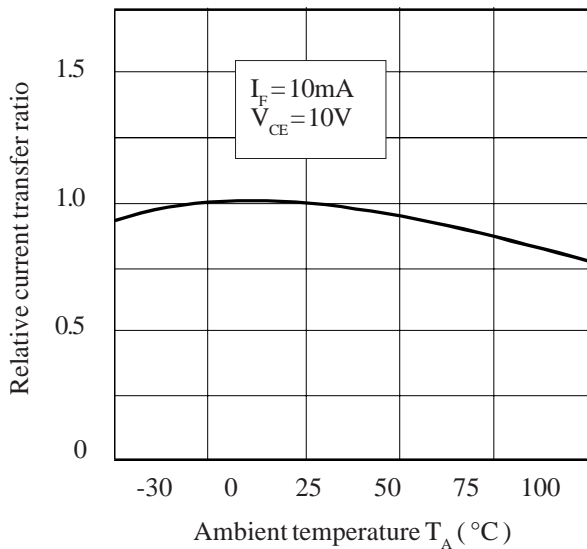
Forward Current vs. Ambient Temperature



Current Transfer Ratio vs. Forward Current



Relative Current Transfer Ratio vs. Ambient Temperature



Collector-emitter Saturation Voltage vs. Ambient Temperature

